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TELEFAX COVER SHEET

TO: Examiner Brad Baumeister - GAU 2815 - U.S.P.T.O. - (703) 308-7722

FROM: Mark Bergner

DATE: January 14, 2003

SUBJECT: Informal/Draft Telephone Interview Discussion Points for U.S.
Serial No. 09/750,004, Illek et al, Our Case P00,1975.

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MESSAGE:

TOTAL NUMBER OF PAGES INCLUDING COVER SHEET: 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INFORMAL / DRAFT
TELEPHONE INTERVIEW DISCUSSION POINTS

APPLICANT: ILLEK et al DOCKET NO: P00,1975
SERIAL NO.: 09/750,004 ART UNIT: 2815
FILED: December 27, 2000 EXAMINER: B. Baumeister
Confirmation No. 6618
TITLE: SEMICONDUCTOR CHIP FOR OPTOELECTRONICS

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Examiner Bradley W. Baumeister
Washington, D.C. 20231

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Dear Examiner Baumeister:

Thank you very much for agreeing to a telephone interview in the above identified case on January 15, 2003 at 10:00 EST, which is currently under a final rejection based on the Office Action (OA), dated July 17, 2002.

We would like to propose the following amendments and provide the following distinctions over the prior art to see if you would consider placing the case in a condition for allowance. We would elect claims 15-42 without traverse.

17. (Proposed Amended) A semiconductor chip according to claim 15, wherein said active thin-film layer includes a layer sequence based on $\text{In}_{1-x}\text{Al}_x\text{Ga}_y\text{P}$ (whereby $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x+y \leq 1$ applies). (overcoming the claim objection)

19. (Proposed Amended) A semiconductor chip according to claim 15, wherein said plurality of mesas are formed only in radiation-generating regions of said active thin film [layers] layer. (overcoming the first 112, 2nd paragraph rejection)

33. (Proposed Amended) A semiconductor chip according to claim 15, further comprising:

an electrical contact area next to said thin-film layer at that side of said thin-film layer [facing toward said thin film layer] opposite to said carrier substrate. (overcoming the second 112, 2nd paragraph rejection)

Cancel claims 29, 30, and 34-36 without prejudice. (overcoming the drawing objections and the 112 1st paragraph rejection)

As to the art rejections, we would briefly like to discuss the following points and ask you to

please reconsider your art rejections.


It is our understanding that Umeda '587 does not address thin-film technology, but rather teaches away from it, and that further, the thin film technology of the present invention was not known at the time of filing of Umeda (May 4, 1973).

Conventionally, thin-film technology deals with forming electronic elements or networks on a supporting substrate where film thicknesses are less than $5\mu\text{m}$ and usually on the order of 0.03 to $1\mu\text{m}$. Thick-film technology deals with forming electronic elements or networks on a supporting substrate where film thicknesses are usually $10\mu\text{m}$ or greater. See, e.g., Fink & Christiansen, *Electronics Engineers' Handbook, Second Edition*, McGraw Hill: New York, 1982. These different technologies employ different techniques that impart different characteristics and constraints on respective devices. Umeda expressly teaches away from thin-film techniques, based on the elements as you construed them in your office action. Umeda states at 6/42-46, "...and the thickness of layer 24 should be 40μ or more in order to compensate for any irregularity of the crystal lattice and that the effect intended in this invention is most significant when the thickness of the layer 26 is made greater than 50μ . Since both of your constructions for Umeda's "thin-film" layer included elements 24 and 26, this would give a thickness of at least $90\mu\text{m}$ —and Umeda teaches that the effect is most significant when these layers are even thicker. This is clearly not in the thin-film realm of the present invention.

As to Masahiko JP '731 reference, this does not disclose a semiconductor body comprising an active thin-film layer wherein cavities are formed proceeding from a carrier substrate. While JP '731 does contain a substrate 1, the grooves 9 are contained in the substrate itself and do not proceed from it as required by claim 15.

I respectfully ask that you take these factors and the proposed amendment into consideration for our interview. I also welcome any suggestions you might consider for claim language that could emphasize these distinctions should you deem it necessary. Again, thank you for your time, consideration, and willingness to conduct the interview.

Sincerely,

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